

WHAT IS CLAIMED IS:

1. A mold assembly for a molding process comprising:  
a mold member; and  
an anisotropic diffuser member, said diffuser member comprising a  
5 fibrous composite having a plurality of fibers each having a respective  
length, said fibers arranged in a lay-up with said length of each fiber being  
arranged in a substantially uniform direction within said diffuser member,  
wherein said diffuser member is arranged in a position permitting a rapid  
transfer of heat along said length of each fiber to said mold member.
- 10 2. The mold assembly for a molding process according to claim 1,  
wherein said fibrous composite is a graphite reinforced composite.
3. The mold assembly for a molding process according to claim 1,  
wherein said diffuser member is a diffuser plate.
4. The mold assembly for a molding process according to claim  
15 1, wherein said diffuser member is a thermal coating.
5. The mold assembly for a molding process according to claim 1,  
wherein said mold member includes a mold cavity, said diffuser member  
being arranged within said mold cavity.
6. The mold assembly for a molding process according to claim 1,  
20 wherein said mold member includes a mold cavity, said diffuser member  
being arranged alongside said mold cavity.
7. The mold assembly for a molding process according to claim 1,  
further comprising a heating member.
8. An anisotropic diffuser plate for a mold assembly, said diffuser  
25 plate comprising a fibrous composite having a plurality of fibers each  
having a respective length, said fibers arranged in a lay-up with said  
length of each fiber being arranged in a substantially uniform direction  
within said diffuser member, wherein said diffuser member is arranged in

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a position permitting a rapid transfer of heat along said length of each fiber.

9. The diffuser plate according to claim 8, wherein said fibrous composite is a graphite reinforced composite.

5           10. A method of controlling process temperatures in a molding apparatus, said method comprising the steps of:

controlling a temperature of a mold member with a heat source;  
and

10           arranging an anisotropic diffuser member along a surface of said mold member for distributing heat uniformly from said heat source along a length of said anisotropic diffuser member.

11. The method of controlling process temperatures in a molding apparatus according to claim 10, wherein said diffuser member includes a fibrous reinforced composite having a plurality of fibers each having a  
15           respective length, said fibers arranged in a lay-up with said length of each fiber arranged in a substantially uniform direction within said diffuser member, wherein said diffuser member is arranged in a position permitting a rapid transfer of heat along said length of each fiber.

12. The method of controlling process temperatures in a molding  
20           apparatus according to claim 11, wherein said fibrous composite is a graphite reinforced composite.

13. The method of controlling process temperatures in a molding apparatus according to claim 11, wherein said diffuser member is  
25           arranged in a position along an interior surface of a mold cavity of said molding member.

14. The method of controlling process temperatures in a molding apparatus according to claim 11, wherein said diffuser member is arranged in a position along an exterior surface of a mold cavity of said molding member.

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